

25 Watt - LDHL25W Series

CONSTANT CURRENT LED DRIVER FOR HAZARDOUS LOCATIONS



25W
 LDHL25W Series
 UL TYPE HL

Model: LDHL25W Series

- Drive Mode: Constant Current or Constant Voltage
- Technology: PFC Off-Line Switch Mode
- Output Power: 25W Max.
- Input Voltage: 90 to 305VAC, 47- 63Hz
- Number of Outputs: One
- Output Voltages: 4VDC - 72VDC
- Output Currents: 350mA - 2080mA
- Optional 0-10V or PWM Positive Dimming 10% ~ 100%
- UL Type HL Rated for Hazardous Locations

Environmental

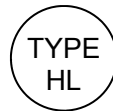
1. Operating temperature: Tc 90C Maximum. Reference -30 to +60°C ambient
2. Storage temperature range: -40 to +85°C
3. UL Type HL rated with V5A Case
4. Humidity (non-condensing): 5% - 95%RH
5. Cooling: Convection
6. Vibration Frequency: 5-55Hz/2g, 30 minutes
7. Impact resistance: 1g/s
8. MTBF@ 40°C: 482,000 hours @ Full Load per MIL-217F Notice 2.

Safety and Compliance

1. UL8750, EN61347, CSA 22.2 safety recognized, UL Type HL
2. FCC, 47CFR Part 15 Class B & EN55015 compliant.
3. Water resistant and Dust Proof Design: IP66, NEMA4, for Dry, Damp, Wet Locations.
4. Compact, Lightweight Design using 5VA rated case.
5. Safety Isolation between Primary and Secondary
6. Meets EN61000-3-2 & EN61000-3-3 Class C
7. Protection: output over-voltage, output over-current, output short circuit, auto-recovery.
8. Internal Thermal protection. Hick-up mode. Off if Tc reaches \approx 105C, On when Tc reaches \approx 65C

Electrical Specifications at 25°C

- Input voltage range: 90 to 305VAC
- Frequency: 47- 63Hz
- Power Factor: \geq 0.90 at \geq 70% Load, 120Vac/230Vac, \geq 88% Load 277Vac
- THD%: \leq 20% at \geq 70% Load, 120Vac/230Vac/277Vac, \geq 80% Load 277Vac
- Inrush current: <15A at 25C, 230V, cold start, Full Load
- Input current: 0.25A at 120Vac, 60Hz, Full Load
- Efficiency: 83% typical 230Vac Full Load
- Constant Current regulation: +/-3% Over Input Line Variation
- Load regulation accuracy: +/-4%
- Leakage current: 400uA typical; Hold up time: half cycle



IP66



Constant Current Versions

Part Number ⁽²⁾	US Class 2	CN Class 2	Output Voltage Range	Output Constant Current	Current Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LDHL25W-72-C0350	NO	NO	24 - 72 VDC	350 mA	+ 4%	25W	86%
LDHL25W-62-C0400	NO	NO	21 - 62 VDC	400 mA	+ 4%	25W	85%
LDHL25W-56-C0450	NO	NO	19 - 56 VDC	450 mA	+ 4%	25W	84%
LDHL25W-45-C0560	YES	YES	15 - 45 VDC	560 mA	+ 4%	25W	84%
LDHL25W-40-C0620	YES	YES	13 - 40 VDC	620 mA	+ 4%	25W	84%
LDHL25W-36-C0700	YES	YES	12 - 36 VDC	700 mA	+ 4%	25W	83%
LDHL25W-28-C0850	YES	YES	10 - 28 VDC	850 mA	+ 4%	25W	82%
LDHL25W-24-C1040 ⁽⁵⁾	YES	YES	8 - 24 VDC	1040 mA	+ 4%	25W	82%
LDHL25W-20-C1250	YES	YES	7 - 20 VDC	1250 mA	+ 4%	25W	82%
LDHL25W-18-C1400	YES	YES	6 - 18 VDC	1400 mA	+ 4%	25W	81%
LDHL25W-16-C1560	YES	YES	6 - 16 VDC	1560 mA	+ 4%	25W	81%
LDHL25W-14-C1750	YES	YES	5 - 14 VDC	1750 mA	+ 4%	25W	80%
LDHL25W-12-C2080 ⁽⁵⁾	YES	YES	4 - 12 VDC	2080 mA	+ 4%	25W	78%

Notes

1. Typical efficiency measured at 230VAC input, full load
2. For dimmable versions add appropriate designator to the part number: For Example: LDHL25W-18-C1400-RD is 0-10V or resistance dimmable version, LDHL25W-18-C1400-PD is PWM dimmable version.
-RD 0-10V & Resistance dimmable version comes with an extra two wires +Purple/-Grey on the output side.
-PD PWM Dimmable version comes with an extra two wires +Purple/-Grey on the output side.
See page 2 for alternate lead out from sides by adding SE to the end of the part number.
3. -RD 0-10V Dimming is compatible with most quality 0-10V wall dimmers and direct 0-10V analog signal. See page 3 for details.
4. -PD PWM version is PWM Dimmable via a positive 10% to 100% Duty Cycle, 500Hz to 1.5KHz, 0-10V Pulse. See page 4 for details.
5. SAM Recognized.

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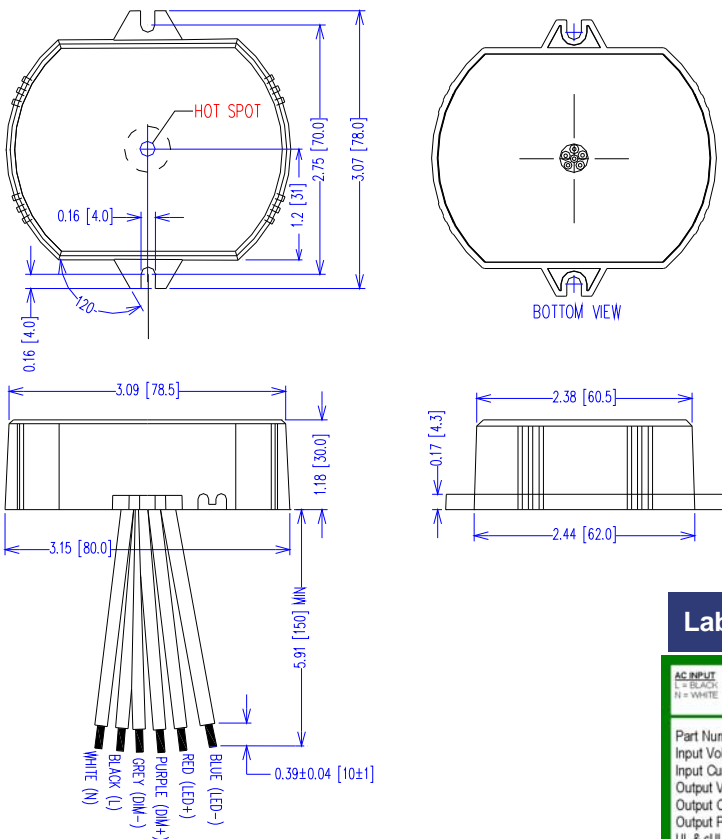
Constant Voltage Versions

Part Number	US Class 2	CN Class 2	Output Constant Voltage	Output Current Maximum	Voltage Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LDHL25W-72	NO	NO	72 VDC	88 - 350 mA	± 5%	25W	86%
LDHL25W-62	NO	NO	62 VDC	100 - 400 mA	± 5%	25W	85%
LDHL25W-56	NO	NO	56 VDC	113 - 450 mA	± 5%	25W	84%
LDHL25W-45	YES	YES	45 VDC	140 - 560 mA	± 5%	25W	84%
LDHL25W-40	YES	YES	40 VDC	155 - 620 mA	± 5%	25W	84%
LDHL25W-36	YES	YES	36 VDC	175 - 700 mA	± 5%	25W	83%
LDHL25W-28	YES	YES	28 VDC	213 - 850 mA	± 5%	25W	82%
LDHL25W-24 ⁽⁵⁾	YES	YES	24 VDC	260 - 1040 mA	± 5%	25W	82%
LDHL25W-20	YES	YES	20 VDC	313 - 1250 mA	± 5%	25W	82%
LDHL25W-18	YES	YES	18 VDC	350 - 1400 mA	± 5%	25W	81%
LDHL25W-16	YES	YES	16 VDC	390 - 1560 mA	± 5%	25W	81%
LDHL25W-14	YES	YES	14 VDC	438 - 1750 mA	± 5%	25W	80%
LDHL25W-12 ⁽⁵⁾	YES	YES	12 VDC	520 - 2080 mA	± 5%	25W	78%

Mechanical Dimensions: Inches [mm]

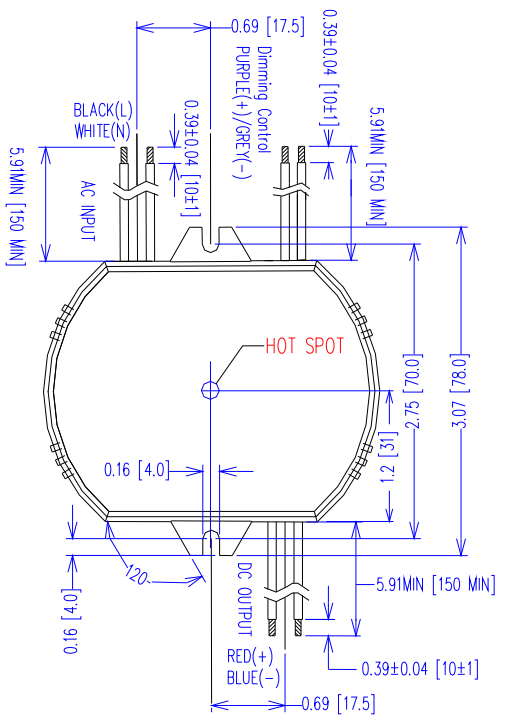
Material: Black 5VA Plastic Case
Fully Encapsulated
Weight: 198 grams (7.0 oz) Typical

STANDARD LEAD-OUTS ARE FROM BOTTOM



ALTERNATE LEAD-OUTS FROM SIDES
Add SE at the end of the part#

For Example:
LDHL25W-18-C1400-SE is non dimmable version
LDHL25W-18-C1400-RDSE is 0-10V dimmable version
LDHL25W-18-C1400-PDSE is PWM dimmable version



Labeling Example



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 UL TYPE HL

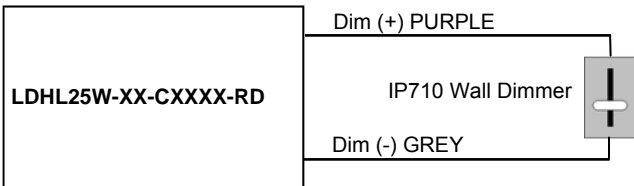
-RD 0-10V CCR Dimming Scheme

Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0mA	—	2mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0V	—	+15V
Sink Current into 0-10V Purple Wire	0mA	—	1.2mA

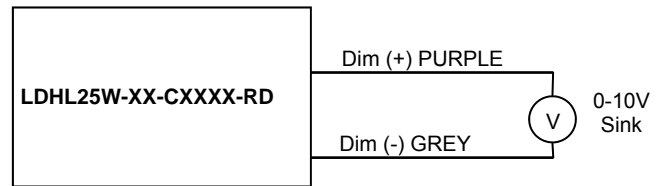
Notes

- RD 0-10V dimmable version comes with an extra two wires +Purple/-Grey on the output side.
- RD version is compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal.
Recommended wall slide dimmer is Leviton IP710 or equivalent
- RD 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V
- RD 0-10V dimmable version output will be 100% with Purple/Grey open and minimum with Purple/Grey Shorted.

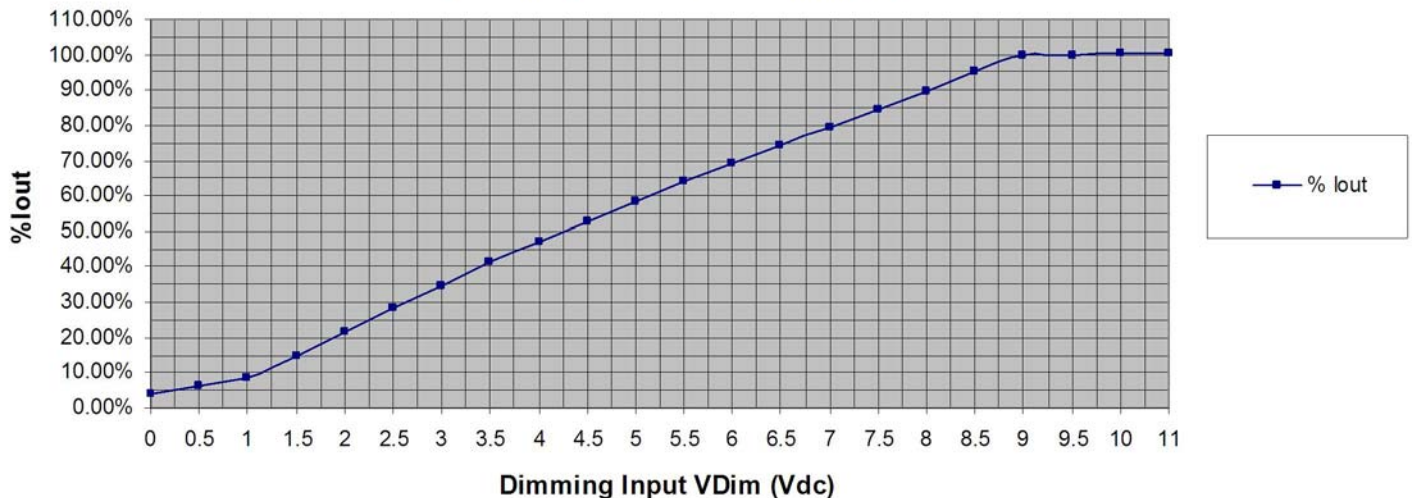
-RD 0-10V Resistance Dimming Scheme



-RD 0-10V Analog Dimming Scheme



% Output Current vs. 0-10VDC Dimming Input



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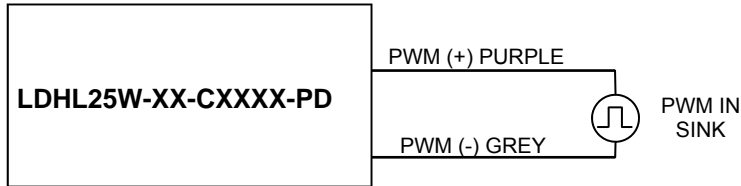
-PD 2-Wire CCR PWM Positive Dimming Scheme

Parameters	Minimum	Typical	Maximum
Absolute Maximum Voltage Range on PWM Input (Purple Wire)	-2.0V	10V	+15V
Input LOW Level Voltage Range (Purple Wire)	-2.0V	0V	+5.5V
Input HIGH Level Voltage Range (Purple Wire)	+9.0V	10V	+15V
Source Current out of PWM Input (Purple Wire)	0mA	—	2mA
PWM Input Signal Frequency	500Hz	—	1500Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

Notes

1. -PD PWM Dimmable version comes with an extra 2 wires +Purple/-Grey on the output side.
2. -PD PWM Dimmable version is not intended to dim below about 5% @ 0% Duty Cycle or 10% @ 10% Duty Cycle
3. -PD PWM dimmable version output will be 100% with Purple/Grey open and minimum with Purple/Grey Shorted.

-PD 2-Wire PWM Positive Dimming Scheme



% Output Current vs. 1.0 kHz, Positive Duty Cycle Dimming Input

